BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

In the Matter of	)	
	)	
PUBLIC UTILITIES COMMISSION	)	DOCKET NO. 2021-0024
	)	
Opening a Proceeding to Review Hawaiian Electric's Interconnection Process and Transition Plans for Retirement of Fossil Fuel Power Plants.	)	

COMMENTS OF ULUPONO INITIATIVE LLC ON HAWAIIAN ELECTRIC'S INTERCONNECTION PROCESS AND TRANSITION PLANS FOR RETIREMENT OF FOSSIL FUEL POWER PLANTS

and

CERTIFICATE OF SERVICE

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Pursuant to Order No. 37624, filed by the Hawaii Public Utilities Commission (the "Commission") on February 11, 2021, which invited comment by interested stakeholders on process improvements to address interconnection delays with current projects under development, Ulupono Initiative LLC ("Ulupono") by and through Murray Clay, President, and its attorneys, Carlsmith Ball LLP, hereby respectfully submits its comments on improvements to existing interconnection delays for current projects under development.

I. INTRODUCTION

Hawai'i's energy sector is an increasingly dynamic environment that requires a concerted and focused effort to maintain the momentum necessary to achieve Hawai'i's renewable energy goals. While Hawaiian Electric has taken steps to address certain needs and expectations of customers and the Commission, the utility is at a point of inflection in Hawai'i's energy transition. Longstanding challenges and complexity with Hawaiian Electric's planning and interconnection processes now risk the opportunity to replace old, fossil fuel generation with a clean energy portfolio, emphasized by the near-term

retirements of the AES Hawai'i Power Plant ("AES Facility") on Oahu and MECO's Kahului Power Plant ("Kahului Facility").[1]

While Ulupono understands there are challenges to transitioning to a more sophisticated portfolio of resources that provide more operational flexibility for the emergent electric system, the decisions Hawaiian Electric will make in response to the planned retirements of fossil-fuel generation will have significant and lasting implications for Hawai'i and its residents. The solutions proposed by Hawaiian Electric in their Initial Status Update are backward-looking and ignore the Commission's repeated and increasingly urgent calls to plan for the retirement of AES' operations. They further rest on unrealistic assumptions about replacements for 180 megawatts of baseload capacity, and fail to present a comprehensive plan that effectively integrates technologies and systems to meet Hawai'i's grid needs, enhance the electric system's reliability and resilience, and promote the state's clean energy goals.[2]

Since 2017, the Commission and stakeholders have provided consistent guidance and financial incentives to encourage Hawaiian Electric to conduct efficient and effective procurements to bring renewable energy generation online as quickly as possible.[3] In Docket 2017-0352, the Commission offered shared savings mechanisms ("SSM") for the Stage 1 and Stage 2 Request For Proposals ("RFP") for both (1) the timely acquisition and (2) the delivery of renewable energy generation. Relatedly, the Commission approved the majority of the Stage 1 Power Purchase Agreements ("PPAs") in three months, to get renewable energy projects online and available as early as July 2021.[4] For the Stage 2 RFP, both

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[1] *See* Docket 2014-0183, Hawaiian Electric Power Supply Improvement Plans ("PSIP"), Book 2 of 4 at D-5 and D-24-25, filed December 23, 2016. "The 2016 PSIP analysis assumes that our power purchase agreement ("PPA") with AES Hawaii on Oahu will not be renewed when it expires on September 1, 2022." "All four [Kahului] units were previously scheduled for retirement by 2019; however, their retirement would have resulted in a reserve capacity shortfall of approximately 40 MW…We currently plan to retire the entire facility in 2022 assuming sufficient replacement resources (including DR and generation) are in operation by then."

[2] *See* Docket 2021-0024, Hawaiian Electric Interconnection Process and Transition Plans for Retirement of Fossil Fuel Power Plants – Initial Status Update ("Initial Status Update") at 3-7, filed March 5, 2021.

[3] *See* Docket 2017-0352, Order 36604 at 25, filed October 9, 2019. "The commission has repeatedly expressed that timely execution of the competitive procurement process is a central objective of this proceeding."

[4] *See* Docket 2018-0430 – Approval of Power Purchase Agreement ("PPA") with AES Waikoloa Solar, LLC, Application at Attachment K – Guaranteed Project Milestones ("Attachment K") at K1, "July 20, 2021 – Guaranteed Commercial Operations Date"; Docket 2018-0431 – Approval of PPA with Ho'ohana Solar 1, LLC, Application at Attachment K at K1, "December 31, 2021 – Guaranteed Commercial Operations Date"; Docket 2018-0434 – Approval of PPA with Mililani Solar, LLC, Application at Attachment K at K1, "December 31, 2021 – Guaranteed

the Commission and Hawaiian Electric agreed to prioritize replacement capacity for the AES and Kahului Facilities.[5] In Docket 2015-0389, stakeholders have provided consistent feedback to improve the program design and procurement process of the Community Based Renewable Energy ("CBRE") program for each phase, while the Commission expanded the capacity of the program in Phase 2 to enable more targeted opportunities for customers to participate in the CBRE program as well as expand overall renewable energy generation. Yet, despite these efforts, the majority of the Stage 1 RFP projects have been delayed by a year, Stage 2 project timelines have little to no opportunity to accelerate project timelines, and only 300 kilowatts ("kW") of CBRE program capacity has been successfully implemented since 2017.[6]

To witness the setbacks of these strategic opportunities is discouraging and counter to the state's aggressive climate and clean energy goals. Although Ulupono is sensitive to other circumstances that may have impacted project timelines, such as the pandemic, delays caused by permitting requirements, and in some cases, developer-initiated changes to project design, Hawaiian Electric's backup plans– reactivating currently shutdown oil-fired generating units, extending the life of some of the island's oldest fossil fuel generators, and replacing the loss of load from the AES Facility with a costly battery energy storage system ("BESS") that is charged by fossil fuels instead of renewable energy – is contrary to Hawaiian Electric's asserted strategy to successfully transition Hawai'i's generation system into the 21st century as imagined in the Commission's Inclinations.[7] It is within this context that Ulupono offers recommendations to improve Hawaiian Electric's interconnection processes and is in support of Blue

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Commercial Operations Date"; Docket 2018-0435 – Approval of PPA with Waiawa Solar Power, LLC, Application at Attachment K at K1, "December 31, 2021 – Guaranteed Commercial Operations Date"; Docket 2018-0436 – Approval of PPA with AES Kuihelani Solar, LLC, Application at Attachment K at K1, "July 20, 2021 – Guaranteed Commercial Operations Date".

[5] *See* Docket 2017-0352, Letter from Hawaiian Electric re Stage 2 Draft RFPs at 12-14, filed May 20, 2019.

[6] *See* Status Conference on Hawaiian Electric's Initial Status Update hosted by the Public Utilities Commission on March 16, 2021.

[7] *See* Docket 2012-0036 – Instituting a Proceeding Regarding Integrated Resource Planning, Decision and Order 32052, Exhibit A – Commission's Inclinations on the Future of Hawaii's Electric Utilities, *Section 1: Creating a 21st Century Generation System* at 3-5, filed April 29, 2014.

Planet and HSEA's recommendations to address the electric system's near-term capacity needs as a result of the AES Facility retirement.

In the interest of transparency, the Commission should be aware that pursuant to Order 37592 issued in the CBRE proceeding, Ulupono, Blue Planet Foundation and the Hawaii Solar Energy Association (collectively, the "Joint Parties") did provide the Hawaiian Electric CBRE team with a list of interconnection recommendations to implement prior to the next iteration on the draft RFPs.[8] Ulupono expects Hawaiian Electric to file the complete set of recommendations in the CBRE docket on March 30, 2021. Additionally, Ulupono supplements these comments with a report prepared by Roland Berger in February 2021, referenced as Exhibit 1, which provides recommendations to improve utility-scale and DER interconnection costs and delays as well as Hawaiian Electric's RFPs. The report was informed by experts and stakeholders who have participated in Hawaiian Electric's RFPs and interconnection processes. While the comments below are specific to utility-scale interconnection, Ulupono believes the additional content provided in the report can also be of value to the Commission when applicable.

II. BACKGROUND

An important yet under-examined part of Hawai'i's utility-scale renewable energy project development process is interconnection. In other states, the interconnection process is under the jurisdiction of the Federal Energy Regulatory Commission ("FERC") and is managed through FERC regulated Regional Transmission Operators ("RTO"). Because Hawai'i is outside of FERC's jurisdiction, the electric utilities' interconnection process is overseen solely by the Commission. This arrangement places a stronger emphasis on the need to conduct a process that is transparent, accountable, and efficient.

Ulupono is aware of the historical challenges of Hawaiian Electric's interconnection process. Often characterized as opaque, costly, time-consuming and inconsistent, these issues continue to put renewable energy projects and ratepayers at risk.

[8]Hawaiian Electric hosted two Interconnection Working Group meetings with involved stakeholders on February 11, 2021 and March 12, 2021.

In discussion with several developers, some of which have participated in various procurement processes across the U.S. including Hawai'i, all note that while the technical nuances of Hawai'i's electric system require careful consideration, the majority of interconnection barriers are linked to Hawaiian Electric's practices. These barriers include, but are not limited to: (1) grid transparency, (2) poor modeling documentation, (3) inconsistent cost estimates and information, and (4) unclear and costly project management costs. Expert interviews conducted by Roland Berger underscore these issues.[9] As made clear by recent events, these issues can have rippling effects throughout the energy sector, compromising the benefits of competitive procurements while unnecessarily increasing costs for ratepayers.

Over the past several months, Ulupono has had conversations with developers, the utility and stakeholders on ways to improve the existing interconnection process. These conversations have revealed the need for a more structured approach to interconnection. Section III provides a chart to more clearly convey our recommendations, which could serve as a foundation to establish interconnection requirements that may be adopted by the Commission at a later time.[10] Recognizing the vast amount of activity on this topic that currently spans across a number of proceedings, Ulupono believes there is value to establishing interconnection requirements in the near future to communicate the Commission's preferred outcomes, expectations, and process for each part of the interconnection process as it relates to utility-scale generation on a going forward basis.[11]

III. DISCUSSION

In an attempt to better inform improvements to Hawaiian Electric's interconnection process, Ulupono has developed a chart to more clearly communicate the Commission's concerns, desired

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[9] *See* Exhibit 1 – Roland Berger Interconnection Process Improvement Recommendations, Slide 7.

[10] Pursuant to HRS § 269-142(b), Reliability standards; interconnection requirements; adoption and development; force and effect, the Commission may adopt, by rule or order, reliability standards and interconnection requirements as it determines necessary or upon recommendation from any entity, including an entity contracted by the Commission to serve as the Hawaii electricity reliability administrator provided for the continuing reliable design and operation of the Hawaii electric system.

[11] Ulupono has isolated the chart to address specific issues related to utility-scale interconnection issues as DER interconnection issues are being addressed and managed in other dockets including 2018-0088 and 2019-0323.

outcomes, and solutions worthy of further investigation. The goals and outcomes are informed by recent orders issued by the Commission in this proceeding and the CBRE docket.[12] The proposed solutions are informed by outside research and discussions with the utility, developers and stakeholders which are discussed in more detailed below. Ulupono is aware that there may be other issues identified by the Commission and developers that are not reflected in the table below. However, Ulupono hopes this chart can be iterated by all interested parties (the Commission, Hawaiian Electric, stakeholders, developers) to provide a greater understanding of the issues challenging the current interconnection process and implement the appropriate solutions for future procurement processes.

Goals *Transparency, Accountability, Efficiency and Predictability*	
Desired Outcome	**Potential Solution(s)**
Lower Bid Prices	• Cost Control Mechanisms (Cost Envelope Pricing, Interconnection Security Deposit, Fixed Price Option, Risk Sharing Mechanism) • Interconnection Shared Savings Mechanism
Economic Viability of Projects	
Model Accuracy	• Interconnection Requirement Study ("IRS") Consultant Short List • Interconnection Opportunity Map
Grid Visibility	
Cost Certainty	• Annual Unit Cost Guide • Independent Engineer • Disclosure of Hawaiian Electric's project management costs
Verifiable Information	
Process Assurance	• IRS Process Exhibit for Renewable Generation RFP • Reporting Requirements
Dispute Resolution	• Minnesota's Community Solar Garden Dispute Resolution Process • California's Expedited Interconnection Dispute Resolution Process • Additional information needed from Hawaiian Electric

[12] *See* Docket 2021-0024, Order 37624 - Opening the Docket and Docket 2015-0389, Order 37592 – (1) Developing Recommendations; (2) Addressing Phase 1 Contracts and (3) Granting the Motion to Withdraw of REACH, Inc.

Although it is unclear whether there is any opportunity to make up for delays in recent project timelines[13], Ulupono offers the following general recommendations as near-term solutions to address the recent inefficiencies of the existing interconnection process and potentially address the near-term grid reliability issues. Recommendations include but are not limited to:

- Waiving the early engineering fee for Stage 2 projects[14];
- Waiving interconnection studies for small CBRE projects (< 250 kW) sited in areas with available hosting capacity;
- Developing pre-approved interconnection standards for mid-sized CBRE projects;
- Eliminating IRS restudy for small and mid-sized projects with non-major changes in project capacity or equipment modifications;
- Applying the LMI Interconnection Pilot to Phase 2 CBRE small and mid-sized projects;
- Eliminating Hawaiian Electric's usual procurement practices for soliciting competitive bids in instances where Hawaiian Electric intends to construct any Company-Owned Interconnection Facilities.[15]

While the timing to bring larger projects from the second phase of CBRE online may prove to be challenging, there is an opportunity to allow for smaller projects, with shorter development cycles and to be expedited as indicated above. Additionally, Ulupono is supportive of particular recommendations proposed by Blue Planet Foundation ("Blue Planet") and the Hawaii Solar Energy Association ("HSEA") which include:

- Leveraging programs to accelerate renewable energy adoption, including creating new targeted programs to serve grid needs;

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[13]*See* Status Conference on Hawaiian Electric's Initial Status Update hosted by the Public Utilities Commission on March 16, 2021 at 53:11 to 53:44.

[14]Ulupono recognizes that developers may approach their own project development schedules differently and may not want to choose early engineering for reasons that are unknown at this time.

[15]*See* Docket 2011-00224 –For Approval of Power Purchase Agreement for As-Available Renewable Energy with Kawailoa Wind, LLC, Application at 21. "The Parties also concluded that if Hawaiian Electric constructed the Company Owned Interconnection Facilities using its usual procurement practices by soliciting the work, the Facility's wind turbines would not be placed in service by December 31, 2012."

- Supplementing CBRE projects that can provide grid services with adders or other compensation structures to fulfill anticipated shortfalls due to the AES facility retirement;
- Significantly expanding energy efficiency opportunities that are capable of reducing load when necessary; and
- Removing unnecessary restrictions to customers adding batteries to their existing DER systems.

Having said that, Ulupono understands the additional recommendations discussed in this filing may need more time to work through substantive and implementation details, and may not be able to be applied to existing projects under review by the Commission and/or proposals submitted in response to ongoing RFPs. However, to the extent the Commission believes any of the below can be implemented in the near-term, Ulupono is supportive of that approach. However, considering the seriously implications of recent delays, Ulupono is open to further investigating the possibility for more direct oversight of the interconnection process pursuant to the Commission's authority under HRS §§ 269 141-145 ("Hawaii Electric Reliability Administrator" or "HERA").[16] While Ulupono made reference to HRS § 269-142 above, there may be cause to take further action such as appointing an entity to more closely monitor the operation of the electric system or conduct an audit of Hawaiian Electric's interconnection department and other responsible departments.[17]

A. Interconnection Costs and Cost Certainty

As shown in Exhibit 1, high interconnection costs and the variability of these costs are a main source of concern for the developer community. In recent years, solar projects of similar size have had estimated interconnection costs that have ranged between $2 million to $14 million.[18] Similar cost concerns have been raised for proposed CBRE projects under 5 MWs. As the PPA price is not adjusted

[16] *See* Docket 2017-0352, Letter from Commission re Commission Follow-Up to October 26, 2020 Status Conference – Further Commission Review of Hawaiian Electric's Interconnection Processes and Transition Plan to Retire the AES Coal Plant at 2.
[17] *See* HRS §§ 269 143-144; Monitoring, Compliance and Enforcement.
[18] *See* Docket 2017-0352, Letter to Commission from Yamamoto Caliboso – Comments Regarding HECO Companies Draft Request for Proposals at 13-15, filed November 13, 2017.

after interconnection costs are finalized, any associated cost overruns are borne by the developer. These high and uncertain costs impact the developer's ability to obtain low cost financing for projects, and may increase overall costs for ratepayers as bid prices may be inflated to cover the variable, and often high, cost of interconnection. Therefore, Ulupono believes there is a need to limit developer's liability in these instances and recommends the following cost control mechanisms for Commission consideration.

1. Cost Control Mechanisms

a. Cost Envelope Pricing. Under California's Rule 21, the Cost Envelope framework pushes utilities toward providing developers more accurate cost estimates while also allowing a reasonable buffer to absorb unanticipated overages.[19] Under the cost envelope approach, the developer has the choice to agree to a binding cost estimate that falls within a specified range as determined by the Commission. In California, the Commission provides a plus or minus 25 percent binding cost estimate.[20] This design guarantees the developer will only have to cover a maximum of 125 percent of the interconnection cost estimate. If the costs come in 25 percent lower than the estimate, the developer receives a refund. If the costs exceed the 25 percent, the utility is responsible for the overages. To protect ratepayers, cost overages can only be passed on after the utility provides a reasonable justification for the cost overages, and the request is approved by the Commission. Further, if the cost estimate of a project differs from actual cost of interconnection, the utility is required to file a report with the Commission providing itemized actual and estimated costs in relevant categories (i.e. component cost, labor, operation and maintenance), a description of the cause(s) for the inaccurate estimate, and an explanation on how the utility has or anticipates mitigating this discrepancy.

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[19]Five other states have implemented cost envelope pricing, including Massachusetts, Utah, Minnesota, New York and Oregon. However, Minnesota, New York and Oregon's models do not financially bind the utility to cover the cost variation from the initially quoted estimate. *See* Exhibit 1 at Slide 12.

[20]Ulupono recently proposed several interconnection metrics within the PBR Docket on March 16, 2021 that may help to inform the established buffer set by the Commission.

b. Interconnection Cost Security Deposit. In 2008, BC Hydro, an electric utility in British Columbia initiated the Clean Power Call, a competitive process to procure 5,000 GWh per year to ensure that 90 percent of all electricity generated in British Columbia comes from clean sources ("Clean Power Call").[21] Following the issuance of the Clean Power Call, developers submitted project proposals that included: (1) $/MWh, (2) a preferred point of interconnection on either the BC Hydro Transmission or Distribution system, and (3) a $/MWh adder for each $1 million dollars for the Cost of Interconnection Security ("CIS"). BC Hydro then calculated the estimated interconnection cost for each project and its point of interconnection, depending on project size and location to determine the grid upgrade costs that would apply via the interconnection study. BC Hydro then calculated a levelized $/MWh cost for each project that included: (1) cost of energy, (2) cost of interconnection and grid upgrades, and (3) the cost of the interconnection security. Based on the above, BC Hydro selected projects for and submitted for Commission approval. After the PPA was awarded to the developer, the developer was required to post the interconnection security to limit BC Hydro's exposure in the event the project did not get built. Awarded projects then moved onto construction with BC Hydro responsible for interconnection and grid upgrades. At the Commercial Operation Date ("COD"), the developer's interconnection security was returned to the developer. BC Hydro was then allowed to rate base the cost of interconnection, determined by the levelized cost that funded the interconnection and grid upgrades over the term of the PPA. An advantage to this approach is that it insulates the developer from having to absorb unknown interconnection or grid upgrades that were not available at the time of the bid.

[21] *See* BC Hydro Clean Power Call Home Page at https://www.bchydro.com/work-with-us/selling-clean-energy/closed-offerings/clean-power-call.html.

c. **Fixed Price Option.** For projects that have little to no grid impacts (i.e., do not require substation upgrades and/or require less than a determined amount in upgrades to the electric system), Ulupono recommends the Commission implement a Fixed Price Option. If the project meets the eligibility criteria developed by either an Independent Engineer or Hawaiian Electric, the Independent Engineer or Hawaiian Electric should prepare a Fixed Price Option estimate that includes an estimate of the costs to interconnect a project, with certain elements offered by the utility on a fixed price basis. Once agreed to by the developer, the fixed price will not be subject to a true-up to actual costs at a later time.

d. **Interconnection Risk Sharing Mechanism.** To more fairly share the risk of interconnection and potentially incentivize both the developer and the utility to operate within budget, Ulupono suggests the Commission review the PPA agreement in Docket 2011-0224 (Kawailoa Wind Power Purchase Agreement ("PPA") Application), where both parties agreed to a price adjustment for interconnection costs. The PPA stated that the PPA price could be increased by $0.075/MWh for every $100,000 by which actual costs for the Company-Owned Interconnection Facilities exceeded $19,050,000, and could be decreased by $0.075/MWh for every $100,000 by which the actual cost for the Company-Owned Interconnection Facilities were less than $17,230,000.[22] The PPA price adjustment also stated if actual costs for the Company-Owned Interconnection Facilities exceeded $20 million, Hawaiian Electric shall pay the excess amount, while no increase in pricing should occur to the extent the developer was responsible for the costs of the Company Owned Interconnection Facilities exceeding $18,149,000.[23] While this is an unusual arrangement that was likely applied for circumstantial reasons, Ulupono believes this concept can be modified in a way that protects

[22] *See* Docket 2011-0224, Decision and Order 30012 at 12-13, filed December 12, 2011.
[23] *See* Decision and Order 30012 at 13, Footnote 23, filed December 12, 2011.

developers and ratepayers from unreasonably high interconnection costs, while also ensuring appropriate responsibility for any unnecessary cost overages.

e. **Interconnection Shared Savings Mechanism**. In the Performance Based Regulation ("PBR") proceeding, the Commission identified Interconnection Experience as a preferred outcome of the new regulatory framework. Throughout the PBR proceeding, Ulupono was supportive of developing a performance incentive mechanism ("PIM") or shared savings mechanism ("SSM") for both utility scale and distributed energy resources. Accordingly, Ulupono suggested the Commission look to implementing a SSM for utility-scale interconnection as a complement to RPS-A.[24] As suggested in the RSOP, the SSM could be applied after the final interconnection cost is determined. For example, if the actual interconnection costs are less than the estimate the developer relied upon, the difference between the estimated and actual costs would be split 50/50 between the customer, developer, and the utility. The SSM would provide customers with 50% of the savings, while the utility and the developer each retain 25% of the remaining half of the savings. Under this design, the utility and the developer would have a clear financial incentive to work collaboratively to drive down overall interconnection costs.[25]

2. Cost Estimates and Verifiable Information

An additional measure the Commission should implement to improve cost certainty is a required Annual Unit Cost Guide ("Cost Guide"). Currently, within each Final RFP, Hawaiian Electric includes an Appendix specific to interconnection facilities and unit costs ("Appendix H – Interconnection Facilities and Cost Information"). Appendix H provides per unit cost figures to assist developers in estimating a cost for interconnection of a project. This includes costs for substations, communication devices, security,

[24] *See* Docket 2018-0088, Ulupono Initiative's Reply Statement of Position at 130, filed August 20, 2020.
[25] *See* Ulupono's Reply Statement of Position at 132-133, filed August 20, 2020.

and transmission or distribution line costs.[26] While Hawaiian Electric's Initial Status Update speaks to the improvements made to Appendix H in the CBRE RFPs and notes additional resources are forthcoming, Ulupono believes more can be done in this area to provide developers with more accurate cost estimates.[27]

In this instance, the Commission should look again to California's Rule 21, which requires electric utilities to file a Cost Guide to provide additional transparency to developers on a consistent basis. After review of the California Public Utilities Commission ("CPUC") decision and subsequent Cost Guides filed by the utilities, Ulupono recommends Hawaiian Electric's Cost Guide closely track what is required of California's utilities. This includes (1) a five-year forecast of unit cost estimates to better inform future procurements[28], (2) more illustrative scenarios that are reflective of developer input[29], and (3) anticipated cost for the installation of facilities. Similarly, Hawaiian Electric should work with stakeholders and developers on the development of the initial Cost Guide. Following submission of each Cost Guide, stakeholders and developers should have an opportunity to review and provide comment on the estimates provided in the Cost Guide. If warranted, any cost discrepancies identified could be settled by an Independent Engineer under contract with the Commission. Alternatively, the Commission may consider working directly with an Independent Engineer to develop the Cost Guide to address any objectivity concerns in the process previously described. Utilizing an Independent Engineer for this and other parts of the interconnection process such as, the Dispute Resolution process, could also eliminate other issues caused by the existing interconnection process.

Furthermore, Ulupono believes there is a need for Hawaiian Electric to disclose project management costs for project interconnection. In discussions with the developer community, this issue

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[26] *See* Docket 2017-0352, Hawaiian Electric Final Stage 2 Renewable and Grid Services RFP, Book 1, Appendix H at 2 of 11, filed August 22, 2019.
[27] *See* Initial Status Update at 14-15, filed March 5, 2021.
[28] *See* California Public Utilities Commission, R.11-09-011, Alternate Decision Instituting Cost Certainty, Attachment A – Cost Guide Implementation Principles, filed July 1, 2016. Ulupono notes that Hawaiian Electric's Appendix H for the Stage 2 RFPs provide estimates in 2022 dollars.
[29] *See* Docket 2017-0352, Hawaiian Electric Final Stage 2 Renewable and Grid Services RFP, Book 1, Appendix H at 5 of 11, filed August 22, 2019.

was consistently flagged as a concern. Ulupono is aware that it is not standard practice for Hawaiian Electric to disclose detailed information or justification related to changes to interconnection costs or technology specifications to developers. This dynamic is problematic and should be remedied on a going forward basis. Therefore, Ulupono suggests the Commission require Hawaiian Electric to disclose project management cost to both the developer and Commission for more proper oversight and accountability in this area.

B. Modeling and Grid Transparency

A primary cause for the Stage 1 interconnection delays relates to the model and test documentation provided by Hawaiian Electric to developers in the development of their facility models. In Hawaiian Electric's Initial Status Update, Hawaiian Electric states "meeting the modeling requirements proved to be technically challenging for developers, often requiring between seven to nine iterations per project before working models were obtained."[30] This issue was also raised in several discussions with developers. Each emphasized the need for (1) more information and data regarding the electric system and (2) more access to Hawaiian Electric and associated consultants to clarify questions regarding the development of the facility models. There were also reported issues regarding the feedback on developer's models, stating, at times, that feedback was non-specific, leaving developers to sometimes guess on the appropriate modifications needed to produce a more accurate model.

Ulupono supports Hawaiian Electric's intent to provide more detailed model and test documentation upfront in Stage 2. However, Ulupono believes a more fitting solution may be requesting developers to work directly with a consultant that has experience with Hawaiian Electric's interconnection modeling software and is aware of the unique system challenges of Hawaii's electric system. This approach would obviate the need for the back and forth between the utility, its consultants, and the developer, which can take upwards of six months. To facilitate this, Hawaiian Electric should provide developers with a short list of IRS consultants that have experience integrating renewable energy projects onto their system. In discussion with the utility, there was some concern about this approach that

[30] *See* Hawaiian Electric's Initial Status Update at 11, filed March 5, 2021.

was not fully understood by stakeholders. To the extent Hawaiian Electric can provide specific reasons why this approach may not be appropriate Ulupono would be appreciative of further explanation.

Furthermore, Ulupono suggests Hawaiian Electric develop an interconnection opportunity map ("opportunity map"), to provide developers with better data on the cost of interconnection for certain locations throughout the islands. Ideally, the opportunity map will serve as a resource to visualize information provided in the RFPs[31], while also offering additional data such as, the estimated cost for interconnection, zoning classifications for parcels near existing grid infrastructure, and sites requiring major transmission upgrades.[32] This effort is likely to reduce the time associated with developer's efforts at the outset of the RFP process and provide information that is helpful in assessing a project's overall viability. Ulupono is aware that this endeavor will likely take more time than other proposed recommendations. Therefore, Ulupono suggests that Hawaiian Electric identify and work with an outside vendor to develop this tool.[33]

C. Transparent Interconnection Timelines

The process below represents the interconnection process upon announcement of the Final Award Group. The green boxes indicate actions Hawaiian Electric is responsible for, while the blue boxes represent actions required by developers. In the Stage 1 RFP, Hawaiian Electric provided Exhibit 6 – Interconnection Study Requirement ("IRS") Process, which detailed the steps and associated timelines for the IRS.[34] Ulupono suggests Hawaiian Electric provide an update to this Exhibit for Stage 2, detailing any changes to the IRS process and strict schedule described in Exhibit 6. For current and future RFPs, the

[31] *See* Docket 2017-0352, Hawaiian Electric Final Stage 2 Renewable and Grid Services RFP, Book 1, Section 3.11 – Sites Identified by the Company, Exhibit 1 at 29 of 52, filed on August 22, 2019.
[32] *See* Initial Status Update at 16.
[33] Ulupono believes the opportunity map could qualify for recovery under the Exceptional Project Recovery Mechanism.
[34] *See* Docket 2017-0352, Draft Request for Proposals, Book 2 of 2 at Exhibit 6 – The Hawaiian Electric Companies' Interconnection Requirement Study Process at 3, filed October 23, 2017.

Commission should require this Exhibit to be included to provide more transparency and accountability to the overall process.[35] Additionally, Ulupono recommends the following:

- Imposing reporting requirements once the interconnection process begins; and
- Instituting monetary penalties for any utility related delays.[36]

IRS Letter Agreement (Scope of Work and Cost Estimate)	Execute IRS Letter Agreement (Payment of estimated cost)	Validation of Models for System Impact Study (SIS)	Revise Model & Assumptions to Address Issues	Conduct SIS and Facility Study (FS)	Preliminary SIS and FS Results	Review and Comment on Preliminary Results	Decide who builds HECO Owned IC Facilities	Final SIS	Final FS	Early Engineering Agreement (if desired)

An example of appropriate reporting requirements for the interconnection process could include, requiring Hawaiian Electric to file reports with the Commission on the date of each of the interconnection study milestones.[37] The report should indicate whether the milestone has been achieved. If not, Hawaiian Electric should provide the reason(s) for the delay and steps to remedy the situation. To the extent delays exceed a certain amount of time as determined by the Commission, penalties should be applied. These penalties could be imposed by adjusting performance incentive mechanisms, as indicated by the Commission in Order 37624[38] or structured similar to the daily damages imposed on developers in the PPA.

D. Establish a Dispute Resolution Process

In light of the recent interconnection delays and high interconnection costs, Ulupono believes that it is necessary to institute a dispute resolution process into Rule 19 (Interconnection and Transmission Upgrades) at this time.[39] While disputes can arise at any point in the process, Ulupono suggests that the Commission prioritize dispute resolution processes specific to timeline compliance and cost estimates for system upgrades. After review of other jurisdiction's interconnection rules, Ulupono suggests the

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[35]Ulupono notes this Exhibit has not been provided in the Stage 2 Final RFP or the Molokai and Lanai RFPs filed in Docket 2019-0178.
[36]*See* Star Tribune, 'State Regulators fine Xcel Energy $1M over dispute with solar developers', January 21, 2021.
[37]*See* Docket 2017-0352, Draft Request for Proposals, Book 2 of 2 at Exhibit 6 – The Hawaiian Electric Companies' Interconnection Requirement Study Process at 3, filed October 23, 2017.
[38]*See* Order 37624 at 11.
[39]*See* Hawaiian Electric Rule 19 – Interconnection and Transmission Upgrades.

Commission look to the dispute resolution process implemented in Minnesota. Under this process, the utility and developer are allowed to present their dispute to an independent engineer, who then reviews the issue and makes a decision on the dispute. At that time, parties can either accept the Independent Engineer's resolution or appeal to the Commission.

Another dispute resolution process worth further examination is California's Expedited Interconnection Dispute Resolution Process pursuant to Assembly Bill ("AB") 2861, which requires the California Public Utilities Commission ("CPUC") to establish an expedited dispute resolution process that will issue binding interconnection rulings based on the recommendations of a technical panel within 60 days of the Commission receiving an application regarding a particular dispute.[40] AB 2861 asks the CPUC to (1) establish an eight member technical advisory panel, consisting of four utility members and four non-utility members. Of the eight-member panel, four panel members will be assigned to review each dispute before the Commission and make a recommendation within 30 days. The Commission will then have 30 days to review the recommendation and prepare an Order resolving the dispute.[41]

However, prior to adopting either of these processes, Ulupono still believes more information is needed from both Hawaiian Electric and developers on how disputes are currently managed, if at all, to better inform Commission action on this topic. Relatedly, Ulupono is particularly interested in the Hold Harmless Agreement that Hawaiian Electric requires developers to sign at the outset of the interconnection process. To the extent possible, it would be helpful if Hawaiian Electric could provide more detail on the Hold Harmless Agreement, its intent, and the difference between the Non-Disclosure Agreement ("NDA") that is also required of developers. Ulupono believes more clarity on these types of issues may accomplish some of the same outcomes the Commission hopes to achieve with a Dispute Resolution Process.

[40] *See* California Public Utilities Commission, Staff Concept Paper for an Expedited Interconnection Dispute Resolution Process – Energy Division, May 30, 2017 at 6.
[41] *Id.* at 7.

IV. CONCLUSION

While the circumstances that have prompted these comments raise difficult and urgent challenges, Ulupono is hopeful the recommendations will provide both the Commission and Hawaiian Electric with actionable items to further examine, and ultimately, implement to improve the interconnection process for current and future procurements. As proven by recent events, a transparent, efficient, and effective interconnection process that operates on reasonably predictable timeframes is necessary to achieve both lower cost procurements for ratepayers and expedite the state's transition to renewable energy as originally anticipated. With several RFPs currently in process, particularly for Hawaii Island and Molokai and Lanai, Ulupono believes addressing the interconnection issues at this time will significantly improve the opportunity to more quickly realize the benefits of renewable energy generation over the long term.

Ulupono appreciates this opportunity to submit its comments on Hawaiian Electric's Interconnection Process and Transition Plans for Retirement of Fossil Fuel Power Plants.

DATED: Honolulu, Hawai'i, March 25, 2021.

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BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF HAWAII

In the Matter of	)	
	)	
PUBLIC UTILITIES COMMISSION	)	DOCKET NO. 2021-0024
	)	
Opening a Proceeding to Review Hawaiian Electric's Interconnection Process and Transition Plans for Retirement of Fossil Fuel Power Plants.	)	

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing ULUPONO INITIATIVE LLC'S COMMENTS OF ULUPONO INITIATIVE LLC ON THE HAWAIIAN ELECTRIC'S INTERCONNECTION PROCESS AND TRANSITION PLANS FOR RETIREMENT OF FOSSIL FUEL POWER PLANTS was duly served upon the following party electronically to the e-mail address below pursuant to HAR § 16-601-21(d), as modified by Order No. 37043 Setting Forth Public Utilities Commission Emergency Filing And Service Procedures Related To COVID-19, filed on March 13, 2020.

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The foregoing document was electronically filed with the State of Hawaii Public Utilities Commission's Document Management System (DMS).